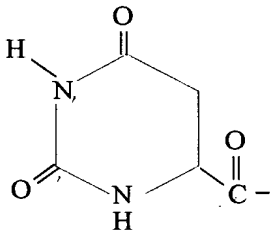
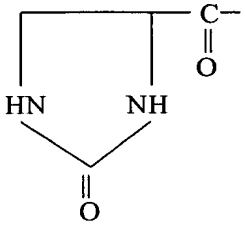
Xaa_5 is 4Aph(Q_1) or 4Amf(Q_1) with Q_1 being [~~Q or~~]



(D- or L-Hor)

or



(D- or L-Imz)

Xaa_6 is D-4Aph(Q_2), D-4Amf(Q_2), D-Lys(Nic), D-Cit, D-Hci or D-3Pal, with Q_2 being For, Ac, 3-amino-1,2,4-triazole, Q or Q_1;

Xaa_8 is Lys(ipr), Arg, Har, Arg(Et_2) or Har(Et_2); and

Xaa_{10} is D-Ala-NH_2, $NHCH_2CH_3$, Gly-NH_2, Ala-NH_2, AzaGly-NH_2, Agl-NH_2, D-Agl-NH_2, Agl(Me)-NH_2 or D-Agl(Me)-NH_2.

2. (Amended) A GnRH antagonist according to claim 1 wherein Q_1 is L-Hor or D-Hor.

Change Claims 9, 10 and 11 to read as follows:

9. (Amended) A GnRH antagonist according to claim 1 wherein Xaa_5 is 4Aph(L- or D-Hor) and Xaa_6 is D-4Aph(Ac), D-4Aph(atz), or D-3Pal.

10. (Amended) A GnRH antagonist according to claim 1 wherein Xaa_5 is 4Aph(L- or D-Hor) and Q_2 is Q and R is H or methyl.

11. (Amended) A GnRH antagonist according to claim 1 wherein Xaa_5 is 4Aph(L- or D-Hor) and Xaa_6 is D-Cit or D-Hci.

Cancel Claim 12.

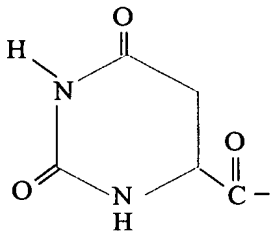
Change Claims 13 and 14 to read as follows:

12~~13~~. (Amended) A GnRH antagonist peptide according to claim 1 having the formula:
X-D-2Nal-(A)D-Phe-D-3Pal-Ser-Xaa_5-Xaa_6-Leu-Lys(ipr)-Pro-Xaa_{10}
wherein:

X is For, Ac, Acr, [Pr]Pn, Bt, Vl, Vac, Bz or Q, with Q being defined as in claim 1;

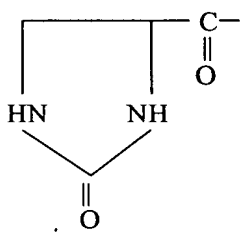
A is 4Cl or 4F;

Xaa_5 is 4Aph(Q_1) or 4Amf(Q_1) with Q_1 being a D-isomer, an L-isomer, or a D/L-isomer mixture of either



(D- or L-Hor)

or



(D- or L-Imz)

Xaa_6 is D-4Aph(Q_2), D-4Amf(Q_2), D-Cit, D-Lys(Nic) or D-3Pal, with Q_2 being For, Ac, Q or Q_1; and

Xaa_{10} is D-Ala-NH_2, $NHCH_2CH_3$ or Gly-NH_2.

13~~14~~. (Amended) A GnRH antagonist according to claim ~~13~~ 12 wherein Q_1 is L- or D-Hor and Xaa_6 is D-4Amf(Q), with R being H or methyl.

Change Claims 16-19 to read as follows:

15~~16~~. (Amended) A GnRH antagonist according to claim 1 having the formula: Ac-D-2Nal-D-4ClPhe-D-3Pal-Ser-4Aph(L-Hor)-Xaa_6-Leu-Lys(ipr)-Pro-D-Ala-NH_2, wherein Xaa_6 is D-4Aph(Ac), D-3Pal, D-4Aph(carbamoyl), D-4Amf(carbamoyl), D-4Amf(methylcarbamoyl) or D-4Aph(D-Hor).

19~~17~~. (Amended) A pharmaceutical composition for inhibiting the secretion of gonadotropins in mammals comprising, as an active ingredient, an effective amount of

a [~~nontoxic diluent~~] GnRH antagonist according to claim 1 in association with a nontoxic diluent.

~~20~~ 18. (Amended) A method for inhibiting the secretion of gonadotropins in mammals comprising administering an amount of a pharmaceutical composition according to claim ~~19~~ 17 which [~~is effective to substantially decrease~~] effects a substantial decrease in LH and FSH levels.

19. (Amended) A GnRH antagonist peptide having long duration of action for suppression of LH secretion, which has the formula:

X-D-2Nal-(A)D-Phe-D-3Pal-Ser-Xaa_5-Xaa_6-Leu-Xaa_8-Pro-Xaa_{10}

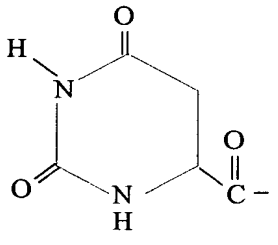
and the pharmaceutically acceptable salts thereof wherein:

X is an acyl group having not more than 7 carbon atoms or Q,

with Q being [~~—C(=O)—NHR,~~ ~~and with R being H or lower alkyl~~] carbamoyl or methylcarbamoyl;

A is 4Cl, 4F, 4Br, $4NO_2$, $4CH_3$, $4OCH_3$, $3,4Cl_2$ or $C^{\alpha}Me4Cl$;

Xaa_5 is $4Aph(Q_1)$ or $4Amf(Q_1)$ with Q_1 being Q, [~~For, Ac, 3-amino-1,2,4-triazole,~~]



(D- or L-Hor)

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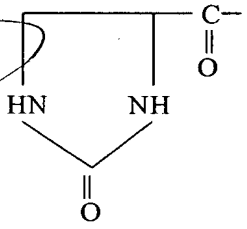

(D- or L-Imz)

Xaa_6 is $D\text{-}4Aph(Q_2)$ or $D\text{-}4Amf(Q_2)$, with Q_2 being Q or D- or L-Hor or D- or L-Imz;

Xaa_8 is Lys(ipr), Arg, Har, diethyl Arg or diethyl Har; and

Xaa_{10} is D-Ala-NH_2, $NHCH_2CH_3$, Gly-NH_2, Ala-NH_2, AzaGly-NH_2, Agl-NH_2, D-Agl-NH_2, Agl(Me)-NH_2 or D-Agl(Me)-NH_2.